

Capital Fights Back: risk, regulation and profit in the UK offshore oil industry

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Introduction On 6th July 1988, a series of explosions ripped apart the Piper Alpha platform, a major North Sea oil installation, killing 167 people. The subsequent inquiry into this, the world's worst offshore industrial accident, proved a moment of exposure both for oil companies and for the British Government, whose regulatory failings were heavily implicated in the disaster leading to the creation of a new offshore safety regime. Yet, as readers of this Journal will be all too aware — especially given recent experiences following the Westray mining disaster — even where health and safety disasters indicate legal reform, law is always, in its development, interpretation and enforcement, a site of struggle.¹ This paper outlines some key elements of this struggle as it relates to the regulation of safety in the UK offshore sector.

The struggle involves some of the world's largest, most powerful transnational actors: oil companies constitute five of the 40 largest companies in the world, and five of the 20 largest companies in the US.² Beyond the enormous social and economic power which accrues to corporations of this size and reach, oil companies are a particularly powerful manifestation of the corporate form because oil is a strategic commodity of geo-political significance. Private corporations who possess the resources to exploit this commodity

are immediately placed in a particularly advantageous position vis-à-vis national states.

Increasingly, when examining national-state regulation of transnational private capital, the discourse of globalization must be taken into account. Despite intense academic debate about the nature and reality of globalization tendencies themselves, there is no doubt that the *discourses* of globalization have assumed the status of a hegemonic truth, a new orthodoxy.³ It is the “perceived dictats”⁴ of this orthodoxy which governments invoke as they seek to attract or retain private capital through various forms of de- and re-regulation, impose massive cutbacks in the social wage and, more generally, reproduce the “political construction of helplessness.”⁵ It is this orthodoxy to which transnational capital points as it seeks to increase its leverage over national states, and both intra- and inter-national sources of resistance. This paper is, in part, a case study of the ways in which, and the effects to which, such discourses of globalization are used by already powerful companies even (and especially) at moments when they seem most vulnerable to greater state and pro-regulatory scrutiny.

The empirical focus of this paper is upon the period following the Piper Alpha disaster. This period saw the emergence of a new project launched by the oil companies — Cost Reduction Initiative for the New Era (CRINE) — which seeks to redefine the realities of production offshore. While these new “realities” of production are highly contestable, they have proven crucial in defining what is deemed to be reasonably practicable in terms of safety protection offshore. Indeed, we argue that CRINE has been the key vehicle of a concerted effort by oil companies operating in the North Sea to undermine the new safety regime. Recent UK Governments have been compliant, even complicit, in the oil companies’ (largely successful) efforts.

Piper Alpha, Cullen and the Goal-setting Regime In 1985, OPEC’s quota system collapsed, and the price of oil plummeted from \$30 a barrel in November 1985 to \$10 in April 1986. The effects of this price crash were profound, and the UK controlled sector of the North Sea, the United

Kingdom Continental Shelf (UKCS), was not immune. There, "The majors cut their budget by 30 to 40 per cent"⁶ and 1986 saw 22,000 jobs lost in the industry.⁷ Also in 1986,

Drilling fell by 40%, as companies abandoned projects like the discovery of new fields in favour of the limited expansion of existing ones ... The majors could tide this one out. But the effects on supply and exploration companies was more deadly. The Royal Bank of Scotland calculated that sums of £60 billion in future North Sea investment, 1985-90, would have to be revised downwards by at least 50 per cent. For the suppliers, even a fall in demand for their services of more than one-third was near catastrophic.⁸

This period *did* mark something of a crisis for companies operating in the UKCS, since it marked the end of a period of windfall profits.⁹ The ad hoc responses of oil companies were taken on a company-by-company basis; thus, one consequence of the price crash was, for a period at least, an intensification of competition between individual companies.¹⁰

These factors are an important context for understanding the Piper Alpha disaster. More specifically, the disaster occurred in an economic context defined by the twin pressures of cost reduction and increased production; in a sector where a relatively powerless workforce was marginalised from the process of safety management,¹¹ and under pressure to adopt high risk work practices¹²; and in a regulatory framework which had been constructed in a way that was subservient to the exigencies of the "political economy of speed."¹³ In combination, these factors militated strongly against the development of an effective safety regime.

Indeed, the history of the UK offshore oil sector up to this point had been a short but bloody one during which over 450 workers had been killed. Recently published quantitative evidence¹⁴ suggests that there is little likelihood of abating the carnage. Contrary to claims being made by the oil companies since 1988¹⁵, the industry's safety record is not improving. Woolfson and colleagues used government Health and Safety Executive (HSE) figures for fatalities and serious injuries combined¹⁶, excluding minor injuries in order to minimise reporting problems, to analyse changes in

injury rates over two separate periods of time. First, they examined the impact on incident rates of the 1985 price crash and consequent budget cuts in the North Sea. They found an average combined incident rate of 238 per 100,000 workers per year for the pre-1985 period (1980-84), while the post-1985 period (1985-93) revealed a significantly higher average rate of 363 per 100,000. Second, they compared the combined rate for two 5-year periods before and after the Piper Alpha disaster (excluding the number of fatalities and serious injuries associated with the disaster itself) amongst three particularly high risk groups of offshore workers.¹⁷ For the 5-year period preceding Piper Alpha, the combined rate averages 284 incidents per 100,000 workers each year; for the five years following the disaster, the average rose to 293. The evidence points to no improvement, and perhaps to a steady decline, in safety performance over the most recent periods examined.

However, this outcome was hardly predictable when Lord Cullen, appointed to oversee a Public Inquiry into the causes of the Piper Alpha disaster, produced his final report in 1990. The report read as a damning indictment of Occidental, the operators of the installation, concluding it was guilty of a "string" of errors and lapses, amounting to a "superficial attitude to likely risks" and "gross negligence." Cullen was equally scathing with regards to the inadequacy of the regulatory regime. He concluded that the Department of Energy could not regulate safety effectively given its simultaneous role in promoting the development of the North Sea, instead, he recommended that the HSE assume responsibility for offshore safety regulation. Cullen proposed a reconstruction of the safety regime within which the application and assessment of safety standards was to be driven by the principle of self regulation. The new regulatory system was to be based around "goal-setting," which would "take the form of requiring that stated objectives are to be met...rather than prescribing that detailed measures are to be taken." Self-regulation was to be achieved largely through the use of safety cases.¹⁸

In contrast to the "prescription" model, where standards of safety are set by detailed specifications for plant equipment

and procedures, "goal-setting" allows a greater decision-making role for employers and site duty holders (normally owners) in the setting of safety standards. Minimal legal duties are based on levels of risk which should be "as low as reasonably practicable" (ALARP). ALARP is now a key concept in the offshore oil industry as it is in hazardous onshore industries.

A careful reading of Chapter 21 of the Cullen report, which sets out the "Future Offshore Safety Regime," reveals that this Chapter draws principally upon the submissions of the HSE, the Department of Energy; the Norwegian Petroleum Directorate; and the oil majors Conoco, Amoco, Chevron, ICI and Shell. The detailed submission from the trade union group on self-regulation and goal-setting - an unequivocal defence of the principle of prescribed minimum standards¹⁹ - is not even mentioned. Consequently, the approach to offshore safety regulation adopted by Cullen is extremely close to that which is publicly promoted by those companies whose activities are to be regulated.

Our argument here, and elsewhere²⁰, is that ultimately the oil industry in the UK sector has successfully resisted additional capital and operating expenditures that may have resulted from new, more stringent regulatory requirements. Certainly, the Piper Alpha disaster and the Cullen Report, however they might also have proven a watershed for offshore safety, did represent a moment of exposure for the industry.²¹ The Cullen Report highlighted the supremacy of management decisions and the securing of profits through the creation of risk. It was also "the first government sponsored document to tacitly acknowledge the existence of the NRB [Not Required Back],"²² a notorious system of on-the-spot dismissal, used across the industry. Moreover, parts of the British state - particularly the Department of Energy - were exposed to a crisis of legitimacy as the report was unrelenting in its damning of its role in the circumstances leading up to the disaster. Indeed, for a brief period following the disaster, the balance of power amongst social forces did shift from employers in the UKCS to a range of pro-regulatory forces. Such was the political fallout of the Piper Alpha disaster, in combination with a series of other major

incidents affecting workers and the public in the late 1980s, that for a brief period pro-regulatory forces won ascendancy even in the face of groups of employers that had become used to the non-enforcement of existing standards and a government committed to deregulation of occupational safety and health.²³

A tragic legacy of the disaster, however, is that it was followed by - perhaps it even prompted - an organised re-grouping on the part of oil companies. The *necessity* of such a response was furthered by estimates of the cost of the Piper Alpha disaster to the oil industry, indicating that there were likely to be considerable direct and indirect costs related to any improved safety regime.²⁴

The aftermath of the oil price crash of 1985/86 saw individual oil companies respond in a competitive and piecemeal fashion; however, immediate reactions to the Piper Alpha disaster limited the ability of particular companies to sustain such a response. During the early 1990s there emerged a more organised and collective initiative on the part of offshore operators which sought to alter the conditions under which the exploitation and development of offshore oil would proceed. This initiative, organised by and through the oil companies' collective voice the "UK Offshore Operators" Association (UKOOA), invoked the language of maturity, of alternative sources of oil and possible relocation, of economic and uneconomic oil, of restructuring and cost-cutting, and of the potential contribution of the industry to the economic health of the nation.²⁵ UKOOA's "Cost Reduction Initiative for the New Era," henceforth CRINE, was constructed as the only basis upon which a "bright future" for operators, contractors, suppliers, and the nation could be secured.²⁶

CRINE: Defining the UK Oil and Gas Industry's New Era The "Cost Reduction Initiative for the New Era" has been described as, "an industry-wide initiative with the main objective of making it possible to achieve a 30% or more reduction in capital costs for any future oil and gas facilities development. This cost reduction will ... continue to maximise the remaining recoverable reserves, improve the construction

industry's competitiveness in the international arena and thereby help sustain employment at a higher level than would otherwise be possible."²⁷ Notwithstanding this original reference to capital expenditures, CRINE now also targets operating expenditures. More recent statements have targeted a "30% reduction in capital costs" and "50% cut in operating costs within 2-3 years."²⁸ Why, and how, such targets are to be met is indicated in the following discussion of four central themes of the CRINE initiative.

1. CRINE and Survival First, CRINE is couched in terms of the very survival of the North Sea offshore sector. The initiative is centrally located within the exigencies arising from the relative decline in the competitiveness of the UKCS vis-à-vis other oil industries and the international oil economy.²⁹ Put simply, the success of CRINE is represented as *the necessary condition* for the survival of the UK offshore oil industry: "CRINE is a dynamic and positive UKCS response to the pressures of competition in the world of oil ... At stake is the future prosperity of all who are, and will be, dependent on the continued success of the UKCS offshore industry, together with its industrial support base."³⁰

The implication is that without CRINE, future field exploration and development will not take place - oil will remain in the ground. The high-cost UK offshore industry has to operate in the international market place, within which oil companies are looking to alternative investment locations, typically Mexico, Vietnam, the Maldives, China, Indonesia, Malaysia.³¹ Tim Eggar, the Conservative Government's Minister for Industry and Energy at the time,³² was amongst those quick to warn of a doomsday scenario for the UK's oil industry: "unless we can reduce these costs, we face falling producing at home and dwindling orders (for offshore equipment) abroad. We face the decline of the North Sea ... Only radically new approaches can ensure our success."³³

This is not to deny the existence of some dissenting voices within and around the industry regarding the necessity of CRINE. Prominent oil industry economist, Tony Mackay, for one, is doubtful that CRINE is fundamental to survival

pointing out that "it could be one of those management fads — like TQM [Total Quality Management] — which seemed essential at the time, but in two or three years are completely forgotten."³⁴ He argues that high investment risk is a necessary feature of the industry, and that it goes hand in hand with the prospect of high returns on capital: "oil company profits are greatly influenced by oil prices and they can afford to take a long term view if fields are going to produce for 25-30 years. If initial capital expenditure has been reduced, through alliances, and oil prices rise in the future — as most industry economists expect — then the oil companies will do very well."³⁵

Clearly the question of the price of oil is an important one. Perhaps unsurprisingly, industry claims regarding the need for cost cutting often include gloomy predictions of future price trends. For example, in 1992, Chris Fay, Managing Director of Shell UK, told a Confederation of British Industry conference that he saw "absolutely no reason to expect prices to rise dramatically for many years to come, *perhaps even this century*."³⁶ Despite the caution urged by senior managers, the projections of economists such as Mackay of a sharp rise in prices past the end of the century indicate a high chance of a sizeable return on capital investment in the North Sea. CRINE has certainly reduced the size of capital deployment necessary for individual development projects³⁷ and, by reducing the risk on investment, has thus increased the prospects for large "windfall" profits in the future at a significantly reduced capital cost.

It is important to remind ourselves that these kinds of gloomy prognostications regarding the state of the industry are not new; they are, however, likely to be tactical. Writing in 1982, Carson noted that, "the history of the North Sea in the 1970s is littered with industry warnings and reports, often felicitously timed to coincide with new government through over-stating the prospects of relocation on the part of capital currently investing in the UKCS. However, there are at least six reasons why continued exploitation of the North Sea sector is more likely than relocation.

First, the business of oil is distinct from many other areas of economic activity. Given that oil represents a finite resource

(on at least one level), and given the capital intensive nature of the industry, it would be highly problematic for any particular company which had made an investment in terms of exploration and production in an oil-producing region to simply "up anchor" and leave before the end of the productive life of the field. This is particularly true in the North Sea where the very fact that the costs of production remain relatively high means that to engage in upstream activity is a massive investment with individual installations representing a financial commitment of 20-25 years. The high costs of development and production, which are particularly great in the North Sea, are real disincentives against relocation.

Second, it remains more economic to exploit oil around existing fields, for both general reasons (for example, in existing areas of activity there already exists "a comprehensive infrastructure of pipelines, platforms and sub-sea installations").³⁹ and for particular reasons (for example, the ability to refloat some types of platforms to other parts of the UKCS).⁴⁰ Third, in an industry where transportation can be logistically difficult and/or highly expensive, the UKCS has the advantage of proximity to "huge ready-made energy markets in Continental Europe."⁴¹

Fourth, there are still considerable reserves to be exploited. Although there is intense uncertainty and disagreement on the precise extent of these reserves, it is worth noting that, historically, the oil industry has consistently under-estimated the reserves of oil in existence both globally and regionally,⁴² not least "to mislead the government and avoid taxes."⁴³ The extreme sensitivity with which this issue is treated was particularly apparent in October 1992 when President of the Board of Trade, Michael Heseltine, was publicly reprimanded by senior representatives of the oil majors for daring to suggest that the North Sea may have 50 years of productive life left.⁴⁴

Fifth, the UK represents a politically stable context in which to operate - a consideration that has driven the search for sources of oil other than those located in the Middle East and South America.⁴⁵ Thus Lascelles has commented that, "although oilmen complain about the UK's high costs, they still see the North Sea as one of the world's most attractive

exploration areas because of the high quality of the oilfields and the hospitable political environment."⁴⁶ One particular aspect of this context has been the overtly pro-business stance⁴⁷ of recent Conservative Governments' fiscal and economic policies, a stance which the new Labour administration shows little signs of challenging. Finally, the UK's tax regime for the offshore industry is a highly favourable one, to the extent that it has been subject to a great deal of recent comment.⁴⁸ Indeed, two oil economists have noted that "the UK currently has the weakest petroleum taxation regime in the World."⁴⁹

In their combination, these factors indicate that the chances of an immediate or longer-term exodus of capital from the North Sea are extremely slim. Indeed, if oil capital was going to relocate at any time, it would have done so in the mid-eighties, after the collapse of the OPEC cartel quota system. Yet there was no such exodus: in fact, despite gloomy predictions, capital investment doubled in the five years following the slump, rising from £2.5 billion in 1986 to over £5 billion in 1991.⁵⁰ Moreover, while the current price of oil may be much lower than it was in the early 1980s, the price of *producing* a barrel of oil has been consistently pushed down,⁵¹ this has been much less well publicised by the oil companies.⁵² None of these factors have prevented UKOOA from representing relocation as a real threat in order to argue for the necessity of CRINE. The discourses of survival, relocation, and globalization are intimately, though hardly subtly, linked through CRINE.

2. CRINE and Deregulation CRINE is explicitly related to proposals for deregulation. The original CRINE statement expressed explicit support for the Government's own "Burden on Business" (deregulation) initiative;⁵³ and, in turn, CRINE was encouraged by government ministers. Indeed, it is impossible to understand the origins and power of CRINE without locating it in a symbiotic relationship with, first, the Government's commitment to deregulation,⁵⁴ and second, the results of the Department of Trade and Industry (DTI) Working Group on UKCS Competitiveness. It is reasonable to speak of a nexus (of considerable strength) between

CRINE, the DTI Working Group on UKCS Competitiveness, and the DTI Deregulation Initiative.

Tim Eggar announced his intention to set up the "Working Group on UKCS Competitiveness" in October 1992 under the auspices of the Department of Trade and Industry's "Off-shore Industry Liaison Committee."⁵⁵ It comprised representatives from the oil industry, the offshore supplies industry, the DTI and the Scottish Trades Unions Congress (STUC).⁵⁶ Its terms of reference were: "to identify and examine proposals for improving the competitiveness of the UK Continental Shelf; to consider possible initiatives which could be taken in order to achieve a reduction in capital expenditure and/or operating costs; to make recommendations by February 1993 to the President of the Board of Trade and the Minister for Energy on action which could be taken by the industry and/or Government."⁵⁷

The report it published in March 1993, reads almost as a blueprint for the deregulation of the industry. On health and safety, the committee urged that the "HSE expedite the establishment of a new safety regime based on goal setting rather than prescription." The committee sought to establish a key role for UKOOA in this process, stating that "UKOOA should urgently provide HSE with its priorities for repeal or adjustment of existing proscribed legislation." The committee went on to conclude that "considerable scope exists for securing a reduction in [documentation] costs" and that such actions "should be implemented by CRINE."⁵⁸ The publication of this Report saw CRINE shift from an ad hoc industry working group of project managers on the fringes of UKOOA to the centre of industry strategy. Thus Eggar told the inaugural CRINE conference in December 1993,⁵⁹

"since the report of my working group in February, UKOOA has adopted the CRINE initiative ... I welcome it and congratulate those involved. It becomes a handbook that should remain open on desks throughout the industry."⁶⁰

Perhaps more significantly, Eggar's speech signalled a new partnership between the Department of Trade and Industry and the oil companies: "I ... want to confirm that the DTI will be a full partner in pursuing the changes needed ... Partnership means making your concerns our concerns.

It means the DTI searching relentlessly to find ways to help the environment in which you operate.”⁶¹ Effectively, this signalled the DTI’s intention that CRINE would assume a role as an advisory body to government. Since then, the DTI has been an equal partner with the industry in the CRINE project. Conferences are now jointly organised by UKOOA and the DTI, and in 1995, the Department donated £100,000 for the work of the CRINE Office to match the operating companies’ funding.⁶² As Minister for Industry and Energy, Eggar called for “additional proposals on deregulation” which “would be very welcome from industry.”⁶³ The government has continued to support the deregulation agenda of CRINE by periodically requesting suggestions for deregulation from UKOOA and the CRINE secretariat.⁶⁴

3. New Attitudes and Relationships A third explicit element of CRINE is an attempt to develop new attitudes in order to establish relationships of trust amongst those working offshore, to shift from an adversarial culture to one based upon partnership.⁶⁵ Thus there have been calls for “close co-operation between design, fabrication and installation contractors” resulting in “the elimination of much inefficiency and duplication.”⁶⁶ The one group that is not mentioned as participating in this new close co-operation are workers; by contrast, they have to be convinced of the “benefits” of CRINE, not least through the disciplining effect of the threat of unemployment:

CRINE is not - I repeat not - a deliberate attack on jobs. To be complacent and do nothing would indeed be an attack on jobs since we know that the industry would not survive if its past adversarial and wasteful working practices were to continue. We have to find the cure before the patient dies. The simple question we must all ask ourselves is do we wish to have 60% of something or 100% of nothing? Getting the true meaning of CRINE across to all sectors of our industry is one of CRINE’s main objectives for 1995.⁶⁷

Yet the period since the emergence of CRINE *has* been one of continual job losses.⁶⁸ In 1991 there were about 35,000 workers employed offshore, a figure which had fallen to 27,000 in 1995,⁶⁹ and was “below 25,000 and dropping” at

the start of 1996.⁷⁰ Some companies have aimed at reducing their offshore workforce by nearly 50%.⁷¹

Further, to the extent that CRINE has effected real changes in the relationships between companies, contractors and suppliers, then competitiveness within the industry has been reduced - that is, there has occurred a restructuring which has resulted in an oligopolistic response to increased competition. Thus the alliances and strategic partnerships advocated by CRINE have been criticised by some within the industry as generating barriers to entry; ensuring the dominance of large, existent companies; encouraging bureaucratic inefficiency, stifling innovation; and creating the conditions for possible price-fixing and cartelisation.⁷² The benefits of CRINE have been unequally distributed: "The current alliances favour the oil companies. They have been quite successful in passing on a much greater share of risk to contractors without passing on a share of potential rewards."⁷³ The establishment of new relationships, of principles of partnership and the end of adversarial culture urged by the language of CRINE, have acted largely, if not exclusively, to the economic benefit of the operators.

4. CRINE and Safety Finally, CRINE-related statements consistently assert an absolute complementarity between the goals of cost-reduction, efficiency, quality, and safety and environmental protection.⁷⁴ The original CRINE statement noted that, "The correct implementation of CRINE recommendations is fully synergic with the overall safety process followed by the industry in the post-Cullen era ...," a view which has been endorsed by government ministers⁷⁵ and the HSE, the occupational safety and health regulators.⁷⁶ While these sources claim that CRINE is likely to have the effect of improving safety performance, it is perhaps no coincidence that CRINE sources are careful to renounce responsibility for potentially unsafe acts of cost cutting implemented by individual companies.⁷⁷

In summary, the themes outlined above represent a set of assumptions about the industry which have been widely accepted by relevant parties. Indeed, CRINE represents a deliberate strategy on the part of the industry to create a

new set of "commercial realities." These realities are proving to be a powerful propaganda tool, used by the operating companies to create an environment which is more suited to the corporate goal of ever increasing profit margins. If the arguments on survivability are accepted in the first instance, CRINE becomes accepted as unavoidable; as the only possible means for the industry to remain competitive. Thus, the rhetoric of CRINE becomes unchallengeable. The claims made in the CRINE literature on new relationships, deregulation and safety develop the CRINE narrative by setting a new wide-ranging agenda for the industry. If CRINE is accepted as being unavoidable, it becomes difficult to challenge the claims of CRINE on particular points, such as the challenge made by the trade unions to the claim that CRINE will ultimately preserve jobs.⁷⁸ Anybody who dares to challenge the perceived wisdom of CRINE is seen either as a threat, a malevolent force, or is seen as acting against the interests of the industry. Where the assumptions made by CRINE *have* been challenged, the industry has acted quickly to discredit and undermine such resistance.⁷⁹ Certainly workers who resist the worst excesses of CRINE are marginalised as malcontents or undesirables and are disposed of in the same manner as ever: through the NRB. The remainder of this paper comprises a critical examination of the relationship between CRINE and occupational safety.

CRINE, Commercial Realities and Safety

Defining and Redefining ALARP Before we note some of the empirical impacts of CRINE upon safety, it is worth returning briefly to the concepts of goal-setting and the notion of ALARP, "as low as reasonably practicable," for it is through these that the effects of CRINE may in principle influence levels of risk.

The definition of what represents ALARP is open to interpretation, contestation, discretion, thereby allowing a greater opportunity for input from duty holders as to what constitutes reasonably practicable safety standards. The shift towards goal-setting changes the process by which acceptable standards of safety are formulated *and* the roles of both regulatory authority and duty holder. Instead of simply complying with

a set of pre-determined minimum standards, the duty holder is obliged to develop effective and practicable standards suited to the plant and the regulator shifts from enforcing legal minima to *assisting* duty holders in their new role.

It is claimed that goal-setting encourages companies to maximise safety standards: "more affluent employers will be expected, on a subjective application of reasonable practicability, to achieve a higher standard than the minimum."⁸⁰ There are few sectors in the UK with more affluent employers than North Sea oil, however, the flexibility of interpretation afforded by goal-setting poses potential problems for enforcement in the offshore industries. Hall cites an inspector from the HSE's Offshore Safety Division (OSD) on this point: "enforcement is likely to be more difficult in a goal-setting regime. In a black and white situation, it's fairly straight-forward - but now if you're in a goal setting regime and they're doing some things, not the way it should be done, there's a lot of judgement involved as to whether it's acceptable."⁸¹

These problems are exacerbated by the particular approach adopted by the HSE within this model of goal setting. Findings from a survey of inspectors⁸² leave little doubt that the inspectorate is unwilling to involve itself in discussions relating to anything other than the management of safety. Further, the inspectorate's view of "safety management" is a highly restrictive one ignoring the economic, political or social environment of the decision making process in the industry. However, taking cognisance of this environment is crucial given that definitions of commercial viability in general, and cost-benefit calculations in particular⁸³ are central to a determination of ALARP. The determined failure by the inspectorate to seek to understand this environment, and its concomitant acceptance of industry's assertions on prevailing commercial conditions, means that the definition of what is "reasonably practicable" *relies upon a set of realities that are determined by the operating oil companies alone*. In this context, the risk limits set by ALARP can be adjusted by manipulating these commercial "realities."

In turn, ALARP may also be adjusted in order to accommodate the requirements of a changing economic environment,

and "the very standard of reasonable practicability, if defined simply in terms of the employers" cost benefit equation, is inevitably affected by recession."⁸⁴ The reduction of standby vessel cover can be interpreted as a direct result of the replacement of a prescriptive regulation (which stipulated that each platform should have its own standby vessel) by a provision for the standard of ALARP under new goal-setting regulations.⁸⁵ In such a way, the ALARP standard may be adapted to respond to the commercial requirements of the duty holder. Combining the newly defined realities of CRINE, readily accepted throughout the industry as well as by government departments (including the HSE), with the fact that the concept of "reasonably practicable" allows the lower limits of safety standards to be adjusted to whatever happens to be the "commercial realities" of a particular market at a particular period in time, and it may be literally disastrous. In this way, there emerges a situation where safety standards can be *legally* forced downwards.

The Impacts of CRINE: safety, risk and regulation To what extent have new commercial realities, and the parameters they place upon other business functions (such as safety), impacted upon occupational safety in the offshore sector? We approach this question through reference to qualitative data gathered over the past three years in the course of extensive surveys of workers, managers and offshore inspectors.⁸⁶ While we cannot treat this data in any detail here, it is worth summarising some of the general themes that have emerged from these interviews as they address the concerns of this paper.⁸⁷

The changing economic environment in the industry is clearly a major preoccupation of operational managers and managers in specialist safety roles. *All* of those in the sample of managers (32 in total) expressed the view that the resources made available by the operators for safety related functions had increased dramatically in the period immediately after Piper Alpha, largely in response to Cullen, but that more recent cost-cutting in the industry was having a significant impact upon safety. The majority of those interviewed specified that CRINE had placed greater pressures

on all departments to justify every item of expenditure to senior managers, a process from which safety expenditure was certainly not exempt. Indeed, safety expenditure was being reduced as priorities shifted further towards maximising profit levels. One interviewee said that previously, the problem had been "cowboys" and poor managers on the platforms, but that now she had to concentrate on those above her in the hierarchy: "it's now the guys above you that you have to convince about safety." The view that pressure had to be applied to senior, board level managers to ensure resources for safety spending was supported by the majority of managers: "Local Managers see safety as essential, but senior management see it as an evil necessity." In one case, it was reported that one operating company had halved the number of their safety advisors on the platforms and reduced the safety department's budget by 70% in the past two years.

A large majority of managers supported the predominant corporate and government view that CRINE was needed to bail the industry out of an impending economic crisis. Thus, in the opinion of most managers, CRINE is a compulsory, rather than an optional, strategy for both operators and contractors in the industry. Only two operating company managers were skeptical of the necessity of CRINE. One referred to the prioritisation of "short term gains," while a second was adamant that this economic necessity was exaggerated by the operating companies in order to allow the industry to continue to extract large "windfall" profits, as opposed to settling for marginal fields that would supply profits at levels normally sustained by other industries. He questioned the real need for CRINE and referred to one field in particular, which has been claimed to be marginal for almost all of its productive life, yet has never failed to produce enough oil to sustain large profit margins.

In general, managers were divided over the question of whether CRINE actually represented a threat to safety. However, although some perceived threats to safety, while others dismissed such claims and spoke of CRINE as creating new challenges for them as managers, all viewed the pressure to cut costs not as a temporary situation, but as a normal condition of operation.

The views of inspectors from the HSE's Offshore Safety Division (OSD) were broadly similar. While most were aware of the potential problems for safety created by CRINE and cost-cutting in general, and while opinion was divided over whether safety conditions were actually being threatened, they were *unanimous* that cost cutting was essential for the survival of the industry, and that CRINE is at best an "efficiency driver" and at worst a necessary evil. Thus, although some inspectors identified negative aspects of the "new era" in North Sea production, there was a general acceptance of the necessity and inevitability of CRINE. Further, the Inspectorate are clear that discussions with operating companies relating to CRINE and cost cutting are quite separate from safety monitoring and beyond their remit. (By contrast, a large majority of workers and approximately half of the sample of onshore managers interviewed clearly believe that these issues are inseparable). The words of one inspector sum up the HSE's attitude to these "separate" activities of management: "CRINE says, 'we can reduce costs without prejudicing safety.' Well if they can, fine ... We are not management consultants, so it's out of our control. To be blunt, it's nothing to do with us."

This formal, methodical separation of management functions limits the Inspectorate's remit as regulator. In practice, a regulatory strategy based around such a separation leaves inspectors unable to tackle some of the issues that offshore workers, and indeed managers, view as being of prime importance to the maintenance of safe working conditions; namely, the programme of expenditure cuts which is now synonymous with CRINE.

It is perhaps unsurprising that, in general, workers were skeptical of the HSE's ability to regulate safety effectively on offshore installations. There seems to have been a widespread, initial hope that the HSE would be a source of support to workers following the establishment of the new safety regime; equally widespread is the subsequent disappointment. As one respondent put it: "It isn't the government and the HSE on the one side and the companies on the other, the relationship is not like this, they are closer." Indeed, some workers interviewed believe that the HSE are heavily

influenced by the political agenda of protecting the interests of the oil companies: "If you are working on behalf of the British government, you don't stop British industry, do you?" According to a number of workers, the HSE's "hands are tied," so that they are either unwilling or unable to enforce their will upon companies. Beyond the atypical instance where immediate remedial action was deemed necessary, HSE officials normally negotiate with the company on the action that should be taken to resolve a breach of safety standards.

On one level, it is hardly surprising that such an approach to enforcement characterises the work of the Offshore Safety Division of HSE. This is a common, well documented approach to the enforcement of safety and health standards both for the UK and elsewhere.⁸⁸ However, in the context of the offshore safety regime, this approach is notable for at least two reasons. First, this regime, and the Offshore Safety Division itself, were established following the world's worst offshore industrial disaster which even the British Government's appointee, Lord Cullen, "explained" in terms of unacceptably poor management and regulatory practices. Second, the (successful) efforts of oil capital operating in the North Sea to emasculate this new regime have been organised, overt, and have proceeded on the basis of co-operation from a key Government department, namely the DTI.

The clearest general conclusion from this work is that CRINE has established cost-cutting as a legitimate strategy and has created a number of serious threats to safety in the offshore industries.⁸⁹ It is revealing that while there appears to be much support for the CRINE initiative amongst managers, evidence provided on particular areas of expenditure cuts seems to support comments made by the sample of workers. The data from the interviews with both managers and workers shows that cost-cutting is currently affecting safety through cuts in maintenance budgets, reduction of support vessel cover for installations, changes in shift patterns, sporadic use of cheaper imported labour reductions in workforces and related drives towards "multi-skilling."

If our qualitative evidence clearly points to the particular ways in which CRINE has a negative impact upon safety

protection, it remains too soon to measure its effects via quantitative data. Present data strongly suggest that, at the very least, the industry's safety record is showing no improvement: as we have seen, the combined fatality and serious injury rate and fatalities alone (an imperfect but nonetheless useful indicator of changing levels of safety) continue at a horrific rate, and that the industry remains the second most dangerous in the UK (second only to the privatised coal mining industry).⁹⁰ The continuing poor state of offshore safety, and awareness at senior levels within the industry is demonstrated through the words of one senior operating company manager: "At the last [Offshore Industry Advisory Committee] meeting.⁹¹ Alan Sefton gave a report on major accidents in recent months across the spectrum. I got the feeling that it was exactly the type of report that the Department of Energy would have given pre- Piper (Alpha). And I'm concerned about the groundswell that we are warned about." Our recent work overwhelmingly concurs with this statement that there has been little change in safety standards offshore since Piper Alpha.

Discussion and Conclusion The opportunity to develop a more protective safety regime offshore presented by the Piper Alpha disaster and the subsequent Cullen Inquiry was not taken. We have argued that a key part of the explanation for this is to be found in the launch of Cost Reduction Initiative for the New Era by the United Kingdom Offshore Operators' Association (UKOOA), with the full support of the Department of Trade and Industry. CRINE established itself as a dominant set of practices and philosophies throughout the industry to such an extent and at such a speed that Tim Eggar was able to proclaim triumphantly that "The UK leads the world in the new skills of cost reduction."⁹² Its pervasiveness means that the conditions under which oil companies can operate in the North Sea have been redefined in a way that is increasingly favourable to the largest oil companies. These new realities of production have been accepted by the regulators and have set real limits upon levels of safety provision. This redefinition of legal safety standards by the regulated, and according to economic criteria,

was made possible by a system of self regulation organised around goal-setting and the principle of ALARP. This regulatory regime was one that UKOOA did much to advocate during the hearings presided over by Lord Cullen.

CRINE seeks to exploit the weaknesses of this self-regulatory framework as part of a deliberate, general strategy on the part of oil companies to resist the consequences of a more protective regulatory regime. The success of CRINE can only be understood within supportive broad political and economic contexts, not least of which are the discourses of globalization. These discourses provide fuel to claims regarding the potential flight of oil capital and imply that Governments must exercise caution in imposing additional "burdens" (that is, costs arising from so-called "social" regulation) upon business. Such discourses have found a perfect complement in the deregulatory initiatives of successive Conservative governments; indeed, there has been such complementarity that it is possible to identify extremely close ideological, institutional, and even personal alliances between the oil companies and the DTI. The new Labour Government has as yet given no signs that such institutional and ideological links will be severed. Moreover, the appointment by the new Government of Lord Simon, former chair of BP (and still a major shareholder) as Minister for EU Competitiveness is perhaps one sign that personal relationships may also continue to be important.

There is one further dimension to the significance of CRINE — a dimension not mentioned in any of the CRINE literature — namely, that the cost reduction campaign has contributed significantly to an enormous increase in cash flow accruing to the operating companies. According to a recent report compiled by industry analysts WoodMackenzie, aggregate cash flow in the UKCS will have risen from less than £1 billion in 1992 to more than £4 billion in 1996.⁹³ Furthermore, WoodMackenzie project annual levels of net cash flow to rise to over £7 billion before the turn of the century. WoodMackenzie also provide an analysis of where this "disposable income" is likely to be deployed, concluding that only 40% will be spent on developments in the UKCS. The rest will most likely go abroad to develop some of the

new oil and gas provinces, such as those in Asia and South America.

This huge amount of capital has been accrued partially through the effectiveness of the CRINE initiative. However, this is not its only source. Since 1983, Conservative governments have consistently sought to reduce the tax "burden" on the operating companies,⁹⁴ a policy described as an "emasculatation" of the tax regime.⁹⁵ The cumulative effect of these changes has seen Government revenues from taxes and royalties tumble from a high point of over £12 billion in 1984/85 to £2.4 billion in 1995/96.⁹⁶ Taxation for every pound of North Sea profit is now around a quarter of what it was 10 years ago.⁹⁷ The 1993 budget, which abolished Petroleum Revenue Tax, was a key point in this process. CRINE was well timed to complement the restructuring of the tax regime and ensure the flow of disposable income to the operators.⁹⁸ Contrary to industries' claims about survival, the WoodMackenzie report is part of a growing body of evidence indicating that CRINE has been motivated not by the instinct to survive, but by the urge to increase disposable income and boost profits. Tragically, it appears that the offshore workforce, by enduring the worst excesses of CRINE, is paying a heavy price for increasing the flow of capital into the coffers of the oil majors, 60% of which may not even be re-deployed to the UKCS, never mind be invested in securing jobs or improving working conditions.

Meanwhile, the post-Cullen offshore safety regime, established at a moment which might have been conducive to the emergence of real improvement in safety conditions, has failed to establish an active role in safety decisions for the workforce. Notwithstanding the inherent limits within any tripartite self-regulatory system — not least of which one based upon the principle of reasonable practicability — if such a system is to be at all progressive or protective then the strength of labour in general, and the formal roles for "workers" representatives in particular, are crucial. When "workers" organisations are weakened or non-existent; when managements reassert their rights to manage; and when claims regarding poor economic conditions (and prospects) hold sway, then any progressive elements of self-regulation

will disintegrate, and there will emerge a *de facto* deregulation.⁹⁹ All of these factors currently exist in the offshore oil industry. Further, the disintegration of self-regulation is likely to be exacerbated both by the apparent willingness of the DTI to accommodate the deregulatory demands of the industry and by the HSE's apparent acceptance of the industry view of feasibility. As economic pressures intensify, or are said to be intensifying, there seems to be little to stop the standards established under a goal setting regime from being gradually eroded. Without a shift in regulatory strategy, which is only likely to be effected through an upsurge in activity on the part of organised labour and other pro-regulatory forces, there appears to be little chance of abating the disintegration of self-regulation and the gradual erosion of safety standards on offshore platforms. The most likely - though, as this paper indicates, temporary - check on such trends would be another large scale loss of life in the industry.

Notes

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1. E. Tucker, "The Westray Mine Disaster and its Aftermath: the politics of causation," *CJLS/RCDS*, 10/1 (1995), pp. 91-123.
2. *Fortune*, April 28, 1997.
3. See C. Harman, "Globalization: a critique of a new orthodoxy," *International Socialism*, 73 (1996); P. Hirst and G. Thompson, *Globalization in Question*, (Cambridge: Polity Press, 1996); and Weiss "Globalization and the Myth of the Powerless State," *New Left Review*, 225, September/October, 1997.
4. D. Goldblatt, "At the Limits of Political Possibility: the cosmopolitan democratic project," *New Left Review*, 225, (1997) p. 140.
5. Weiss, "Globalization and the Myth of the Powerless State," p. 15.
6. C. Harvie, *Fool's Gold. The Story of North Sea Oil*, (London: Hamish Hamilton, 1994), p. 321.
7. *Ibid.* p. 332.
8. *Ibid.* p. 319.
9. The scale of these "windfall" profits is made clear by Overbeek's discussion of profitability for various sectors of capital operating in the UK economy in the 1970s and 1980s:

Rates of Return on Capital Employed in % (Historical Cost)

	average 1970s	1980	1984
all industrial goods	16.3	13.7	17.0
oil	27.6	26.6	18.7

Source: (adapted from) H. Overbeek, *Global Capitalism and National Decline*, (London: Unwin Hyman, 1990), p. 204.

Overbeek's original table lists profitability for 19 sectors. For the 1970s and 1980 data, oil is the most profitable of all these; for 1984, oil is ranked fifth most profitable.

10. V. Tuft, *President's Day Address. CRINE - Cost Reduction Initiative for the New Era*, (London: Marine Management Holdings Ltd, 1994), p. 6.
11. S. Tombs, "Piper Alpha and the Cullen Inquiry - beyond distorted communication?," in R. Cox, and M. Walter, eds., *Offshore Safety and Reliability*, (London: Elsevier Applied Science, 1991).
12. M. Lavelette and C. Wright, "The Cullen Report - making the North Sea safe?" *Critical Social Policy*, (July, 1991).
13. K. Carson, *The Other Price of Britain's Oil. Safety and control in the North Sea*, (Oxford: Martin Robertson, 1982).
14. C. Woolfson, J. Foster, and M. Beck, *Paying for the Piper: Capital and Labour in Britain's Offshore Oil Industry*, (London: Mansell, 1996).
15. For examples of the oil companies claims to a rapidly improving safety record, see for example, UKOOA, *Safety in the North Sea*, VHS video produced by Cinecosse, 24 October, 1990, BBC Radio Scotland. *The Colin Bell Show*, broadcast 5 February, 1996, and BBC TV Scotland, *Frontline Scotland: Paying for the Piper*, broadcast 16 May, 1996.
16. Serious injuries are defined by the HSE Offshore Safety Division as "bone fractures, amputations, injuries involving loss of consciousness and the like" cited from Woolfson et al., *Paying for the Piper*, p. 386.
17. The three groups of workers chosen by Woolfson and colleagues were: Construction, Maintenance and Production; Drilling; and Sea and Air Transport.
18. Lord Cullen, *Cmnd. 1310. The Public Inquiry into the Piper Alpha Disaster (2 volumes)*, (London: HMSO, 1990).
19. *Submission to the Piper Alpha Inquiry, Day 177, 47c*, referred to in J. Foster and C. Woolfson, *Trade Unionism and Health and Safety Rights in Britain's Offshore Oil Industry* (London: International Centre for Trade Union Rights, 1992).
20. D. Whyte, S. Tombs, and D. Smith, "Offshore Safety Management in the New Era: what about the workers?," in *Major Hazards Onshore and Offshore. IChemE Symposium Series No. 139*, (Rugby: IChemE, 1995).
21. C. Woolfson and M. Beck, "The Deregulation of the British Continental Shelf - the Hidden Agenda" in *Offshore Safety in a Cost Conscious Environment*, (Aberdeen: Offshore Information Centre, 1995).
22. Lavalette and Wright, "The Cullen Report - making the North Sea safe?" *Critical Social Policy*, (July, 1991). The term "Not Required Back" has its origins in the early years of the industry when, it is said, the workers' card would be stamped with the letters "NRB" in

- order to prevent him/her from gaining further employment in the industry. Its force is, of course, heightened by the predominant use of casualised labour throughout the industry.
23. S. Tombs, "Law, Resistance and Reform: "regulating" safety crimes in the UK," *Social and Legal Studies*, 4, 1995.
24. Financial Times, 24 August, 1989.
Harvie, *Fools Gold*; R. Elliot, "Provisional Cost Implications: a contractor's view," paper presented at *IChemE Symposium. Lessons for Life-Cycle Management*, 26-27th September, 1990; and T. Redmond, "Piper Alpha - cost of the lessons," paper presented at *IChemE Symposium. Lessons for Life-Cycle Management*, 26-27th September, 1990.
25. Tuft, *President's Day Address*.
26. Ibid.
27. V. Tuft, "Partners in CRINE," *Crinewatch*, August, 1994.
28. A. Risley, "The Challenges of the Nineties," *Offshore International*, Spring, 1995.
29. Such exigencies themselves drawing upon the discourses of globalization; see D. Whyte and S. Tombs "Capital on the Loose: safety, regulation and power in the UK offshore oil industry," paper presented to the *Joint Meetings of the Law and Society Association and the Research Committee on Sociology of Law*, University of Strathclyde, 10-13 July, 1996.
30. Tuft, *President's Day Address*, pp. 10-11.
31. M. Curtis, "CRINE Holds the Key to Survival," *Crinewatch*, January, 1996; S. Fraser, "Focus Special. Oil Industry," *Scotland on Sunday*, broadcast 22 October, 1995; H. Rothermund, "Importance of Cost," *Crinewatch*, October, 1994; R. Thomas, "Plunder! A Tale of Oil and Greed," *The Guardian*, 15 June, 1996; and J. Westwood, "World Offshore Activity. An Upturn in Sight," *Offshore International*, Spring, 1995.
32. Eggar has longstanding links with the energy industry in general, and the oil industry in particular, links that he has formally renewed since leaving his post as Minister for Industry and Energy. Within months of that departure, but still as an MP, he was appointed Chair of MW Kellogg, a transnational energy services company, and Director of Monument Oil and Gas, a rapidly expanding exploration and development transnational; see *Blowout*, June 1996, and J. Bone, "Energetic Eggar Enriched," *Blowout*, Jan./Feb, 1997.
33. *Financial Times*, 23 October, 1992.
34. T. Mackay, "CRINE Hype Hides "Actual Impact," *Press and Journal*, 24 April, 1995.
(Note: The *Press and Journal* is a daily broadsheet published and circulated in the North East of Scotland. With the exception of *Lloyds List*, the *Press and Journal* is the only newspaper with daily coverage of the UK oil industry, and consequently can be found in the London boardrooms of the oil majors).
35. Ibid.
36. *Petroleum Review*, November 1992, emphasis added.
37. Clear evidence is provided by, A. Kemp, "Cost-cutting - the answer to low oil prices," *Press and Journal*, 24 February, 1994, and Mackay, "CRINE Hype Hides "Actual Impact.""

38. Carson, *The Other Price of Britain's Oil*, pp. 128-9.
39. Risley, "The Challenges of the Nineties," p. 4.
40. Ibid. p. 6.
41. J. Cresswell, "Oil Price Clouds Investment in Tomorrow's Rig Technology," *Offshore International*, Spring, 1995.
42. A Kubursi, and S. Mansur, "The Political Economy of Middle-East Oil," in R. Stubbs, and G. Underhill, eds., *Political Economy and the Changing Global Order*, (Basingstoke: MacMillan, 1994); and S. Gill, and D. Law, *The Global Political Economy. Perspectives, Problems, and Policies*, (Hemel Hempstead: Harvester-Wheatsheaf, 1988), pp. 274-275.
43. J. Portella, "Oil Politics and Economics," paper presented at 26 Annual Convention of the International Studies Association, Washington DC, 8th March, 1985 cited in Gill and Law *The Global Political Economy*.
44. *The Independent*, 23 October 1992.
45. See, in particular, Carson, *The Other Price of Britain's Oil*, and D. Yergin, *The Prize. The epic quest for oil, money and power*, (London: Simon & Schuster, 1991).
46. D. Lascelles, "Still Plenty of North Sea Life," *Financial Times*, 6 February, 1993.
47. Risley, "The Challenges of the Nineties," p. 4.
48. See, for example, Cresswell, "Oil Price Clouds Investment in Tomorrow's Rig Technology," W. Hutton, "Cashing in on the North Sea Bubble," *The Guardian*, 7 February, 1996, Risley, "The Challenges of the Nineties," and Westwood, "World Offshore Activity. An Upturn in Sight."
49. I. Rutledge and P. Wright, "Taxing the Second Oil Boom: A fair deal or a raw deal?," (University of Sheffield, unpublished paper, 1996) p. 4.
50. Department of Trade and Industry, *Energy Trends*, various issues.
51. I. Rutledge and P. Wright, "Taxing the Second Oil Boom: A fair deal or a raw deal?"
52. Field Life Cost per Barrel Oil Equivalent (all at 1995 prices)

	Oil fields (£ barrel)	Gas fields (p/therm)
fields producing before 1980	10	10
1980-85	14	21
1986-90	13	18
1991-95	9	13.5
all fields in production	10.5	12.5
all fields under development	8.5	11.5
approved in year	8	11.5

"These overall estimates, which are rounded to the nearest £0.5 are based on the estimated production and costs of the fields together with their equity share of pipelines and terminals, before the payment of royalties and taxes. They include the costs of exploration, development and operation over the expected life of the fields, but exclude abortive exploration costs not attributable to individual fields. A real return on capital of 10% is assumed. The figures can therefore be interpreted at the constant real oil price which would yield a pre-tax real rate of return of 10%." Extract from: Department of Trade and

- Industry, *Energy Report: oil and gas resources of the United Kingdom*, (London: HMSO, 1996).
53. CRINE, Cost Reduction Initiative for the New Era, Founding Statement, 1993.
54. See S. Tombs, "Injury, Death and the Deregulation Fetish: the politics of occupational safety regulation in UK manufacturing industries," *International Journal of Health Services*, 26, (1996).
55. Not to be confused with the OILC, the trade union of the same name which emerged from the rank and file committee which organised the strikes and sit-in campaigns of 1989 and 1990.
56. Due to the consistent and active opposition by the operators to union organisation, recruitment and collective bargaining agreements on the one hand, and the sectional divisions of the trade union movement on the other, offshore workers remain marginalised and largely unrepresented in the STUC and the TUC. The OILC, one of the industry's largest and most influential trade unions remains unaffiliated. For detailed commentary, see: OILC, *Striking Out: New directions for offshore workers and their unions*, (Aberdeen: Offshore Information Centre, 1991); P. Wybrow, "The Scottish Labour Movement and the Offshore Oil Industry," in T. Dickson, (ed) *Capital and Class in Scotland*, (Edinburgh: Donald, 1982); and Woolfson et al., *Paying for the Piper*.
57. All quotations from, Department of Trade and Industry, *Working Group on UKCS Competitiveness Report Summary*, press release, 2 March, 1993. p. 1.
58. Ibid., p. 3.
59. G. MacDonald, "Pub Meeting Sets Up Cost-Cutting System for Smaller Projects," *The Herald*, 2 December, 1993.
60. T. Eggar, *Notes for Speech to the Cost Reduction Conference*, 2 December, 1993, p. 4.
61. Ibid., pp. 1,5.
62. European Offshore Petroleum Newsletter, 30 November, 1995.
63. T. Eggar, "The Cultural Challenge Ahead," *Crinewatch*, August, 1994.
64. UKOOA, *letter to all members*, 7 March 1994, and Vic Tuft interview with author, 1 August, 1996.
65. Tuft, *President's Day Address*.
66. Swaine, cited in *Crinewatch*, October, 1994.
67. CRINE Press Release, 20 March, 1995; see also Eggar cited in *Lloyds List*, 11 November 1994.
68. *Lloyds List*, 14 March, 1993.
69. Department of Trade and Industry, *The Energy Report: oil and gas resources of the United Kingdom 1996*.
70. OILC news release, 17 January, 1996.
71. *Lloyds List*, 29 March, 1993.
72. Examples of this are provided by, K. Aitken, "Oil Chiefs Confront Contract Fears," *The Sunday Times*, 14 April, 1996; S. Tinsley, "Storm Brewing Over North Sea," *Scotland on Sunday*, 18 September, 1994; and Westwood, "World Offshore Activity. An Upturn in Sight."
73. Mackay, "CRINE Hype Hides "Actual Impact.""
74. for example, see Cresswell, cited in *Crinewatch*, December 1994, p.11; Rothermund, "Importance of Cost"; and Romieu, cited in *Crinewatch*, December 1994, p. 11.

75. *Lloyds List*, 30 November 1994.
76. I. Todd, "Better Business is Better Safety," paper presented to *CRINE: Learning to Survive*, London, 31 January - 1 February, 1996.
77. Vic Tuft, interview with author, 1 August, 1996.
78. See *Press and Journal*, 10 June 1994, *Press and Journal*, 24 November 1994.
79. See, for example, *Lloyds List* 30 November, 1994.
80. R. Rideout, *Principles of Labour Law*, (London: Butterworth, 1979), p.341, cited in S. Dawson, P. Willman, M. Bamford, and A. Clinton, *Safety at Work: the limits of self regulation*, (Cambridge: Cambridge University Press, 1988), p. 15.
81. R. Hall, *Regulating Health and Safety Offshore in Britain and Norway* (Unpublished MA dissertation, Keele University, 1995).
82. Whyte and Tombs "Capital on the Loose."
83. Dawson et al., *Safety at Work: the limits of self regulation*, p. 15.
84. *Ibid.*, pp. 253-254.
85. Since the new regulations allow for a reduction in standby vessel cover, one vessel may now be responsible for more than one installation. This has provoked an angry response from offshore workers. Particular concerns relate to cover for "over-side" work, helicopter landings and take-offs and the increased time taken to rescue bodies from the water. For reports of these events, see *The Scotsman*, 29 September, 1994 and *The Herald*, 29 September, 1994, (both Scottish broadsheet newspapers); and for further discussion see D. Whyte, "Moving the Goalposts: the deregulation of health and safety in the post-Piper Alpha offshore oil industry" in J. Stanyer, J and G. Stoker eds., *Contemporary Political Studies* (Political Studies Association of the United Kingdom, 1997).
86. The data is presented more extensively in the following sources: D. Whyte, "The Emperor's New Clothes? Safety, deregulation and cost-cutting in the North Sea Oil industry," paper presented to the *BSA Annual Conference*, Reading, 1-4 April, 1996, Whyte et al., "Offshore Safety Management in the New Era: what about the workers?"; and Whyte and Tombs, "Capital on the Loose: safety, regulation and power in the UK offshore oil industry." In total, approximately 160 respondents have been interviewed in the course of this work.
87. All unattributed quotations are taken from interviews in which anonymity was guaranteed; for a discussion of methodology in particular, and of the range of interviews in general, see sources cited above.
88. This is not, of course, to obscure differences across nation-states in terms of enforcement practices, for these can be significant. See F. Pearce and S. Tombs, *Toxic Capitalism: corporate crime and the chemical industry*, (Aldershot: Ashgate, 1998) and E. Tucker, "And Defeat Goes On: an assessment of third wave health and safety regulation," in F. Pearce, and L. Snider, *Corporate Crime. Contemporary Debates* (Toronto: University of Toronto Press, 1995).
89. Whyte, "The Emperor's New Clothes?"
90. Woolfson et al., *Paying for the Piper*.
91. The role of the Offshore Industry Advisory Committee is to advise the Health and Safety Commission "on the protection of people at

- work from hazards to health and safety arising from their occupation within the oil industry," and provides a forum for "views on proposed legislation and the everyday problems of health and safety." (HSE, *Health and Safety News for the Oil Industry. A Newsletter of the Health and Safety Commission's Oil Industry Advisory Committee*, February, 1995.) The committee meets 4 times a year and comprises 8 representatives from the employers side and 8 from the trade unions.
92. T. Eggar, "Speech to the Institute of Petroleum Annual Dinner," *Petroleum Review*, March 1994.
 93. WoodMackenzie, *North Sea Report*, Number 276, April/May, 1996.
 94. Channel 4, *Wasted Windfall*, documentary series broadcast 4, 11 and 18 October 1994.
 95. Hutton, "Cashing in on the North Sea Bubble."
 96. Department of Trade and Industry, *The Energy Report: oil and gas resources of the United Kingdom*.
 97. Hutton, "Cashing in on the North Sea Bubble."
 98. J. Foster, H. Maguiness, and A. Munro, "Will Scotland's Oil and Gas Contracting Industry Survive the Ending of Petroleum Revenue Tax?" *Fraser of Allander Institute Quarterly Economic Commentary*, 18/4, (1993).
 99. Tombs, "Law, Resistance and Reform: "regulating" safety crimes in the UK."